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International
IOR Rectifier

PD - 20346C

# 22CGQ045

## SCHOTTKY RECTIFIER

35* Amp

**Major Ratings and Characteristics**

| Characteristics | 22CGQ045 | Units |
|---|---|---|
| $I_{F(AV)}$ Rectangular waveform | 35* | A |
| $V_{RRM}$ | 45 | V |
| $I_{FSM}$ @ $t_p$ = 8.3ms sine | 300 | A |
| $V_F$ @ 20Apk, $T_J$ = 125°C (Per Leg) | 0.70 | V |
| $T_J$, $T_{stg}$ Operating and storage | -55 to 150 | °C |

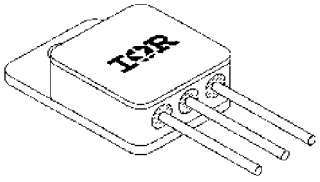
*$I_{F(AV)}$ current limited by pin diameter

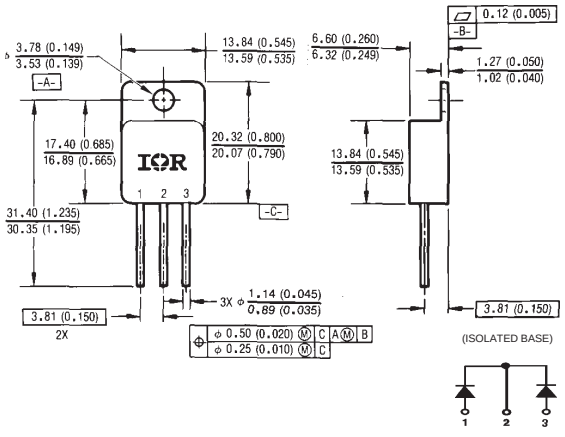
**Desciption/Features**

The 22CGQ045 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of hi-rel environments. It is packaged in the hermetic, isolated, TO-254AA package and has extremely low reverse leakage at high temperature. Full MIL-PRF-19500 quality conformance testing is available on source controlled drawings to JANTX, JANTXV, or JANS levels. Typical applications include switching power supplies and resonant power converters.

- Hermetically sealed
- Center tap
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Electrically isolated
- Ceramic eyelets

**CASE STYLE**






**NOTES:**
1. DIMENSIONING & TOLERANCING PER ANSI Y14.5M-1982
2. ALL DIMENSIONS ARE SHOW IN MILLIMETERS (INCHES).

**Conforms to JEDEC Outline TO-254AA***
Dimensions in millimiters an inches

## Voltage Ratings

| | Part number | 22CGQ045 |
|---|---|---|
| $V_R$ | Max. DC Reverse Voltage (V) (Per Leg) | 45 |
| $V_{RWM}$ | Max. Working Peak Reverse Voltage (V) (Per Leg) | |

## Absolute Maximum Ratings

| | Parameters | 22CGQ045 | Units | Conditions |
|---|---|---|---|---|
| $I_{F(AV)}$ | Max. Average Forward Current *See Fig. 4 | 35* | A | 50% duty cycle @ $T_C$ = 100°C, rectangular waveform *$I_{F(AV)}$ current limited by pin diameter |
| $I_{FSM}$ | Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg) | 300 | A | @ $t_p$ = 8.3 ms sine |

## Electrical Specifications

| | Parameters | 22CGQ045 | Units | Conditions | |
|---|---|---|---|---|---|
| $V_{FM}$ | Max. Forward Voltage Drop (Per Leg) *See Fig. 1 ① | 0.75 | V | @ 20A | $T_J$ = 25°C |
| | | 0.97 | V | @ 35A | |
| | | 0.70 | V | @ 20A | $T_J$ = 125°C |
| | | 0.91 | V | @ 35A | |
| $I_{RM}$ | Max. Reverse Leakage Current (Per Leg) *See Fig. 2 ① | 0.5 | mA | $T_J$ = 25°C | $V_R$ = rated $V_R$ |
| | | 20 | mA | $T_J$ = 125°C | |
| $C_T$ | Max. Junction Capacitance (Per Leg) | 1400 | pF | $V_R$ = 5$V_{DC}$, (test signal range 100KHz to 1MHz) 25°C | |
| $L_S$ | Typical Series Inductance (Per Leg) | 8.7 | nH | Measured lead to lead 5mm from package body | |

## Thermal-Mechanical Specifications

| | Parameters | 22CGQ045 | Units | Conditions |
|---|---|---|---|---|
| $T_J$ | Max.Junction Temperature Range | -55 to 150 | °C | |
| $T_{stg}$ | Max. Storage Temperature Range | -55 to 150 | °C | |
| $R_{thJC}$ | Max. Thermal Resistance, Junction to Case (Per Leg) | 1.25 | °C/W | DC operation *See Fig. 5 |
| $R_{thJC}$ | Max. Thermal Resistance, Junction to Case (Per Package) | 0.625 | °C/W | DC operation |
| $R_{thCS}$ | Typical Thermal Resistance, Case to Heatsink | 0.21 | °C/W | Mounting surface, smooth and greased |
| wt | Weight (Typical) | 9.3 | g | |
| | Die Description (Square) | 0.150 | inches | |
| | Case Style | TO-254AA | | JEDEC |

① Pulse Width < 300µs, Duty Cycle < 2%

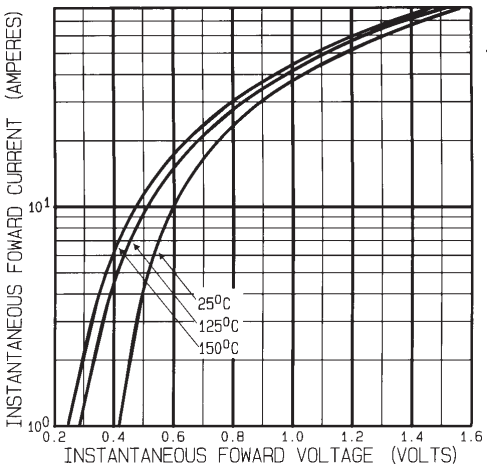



Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

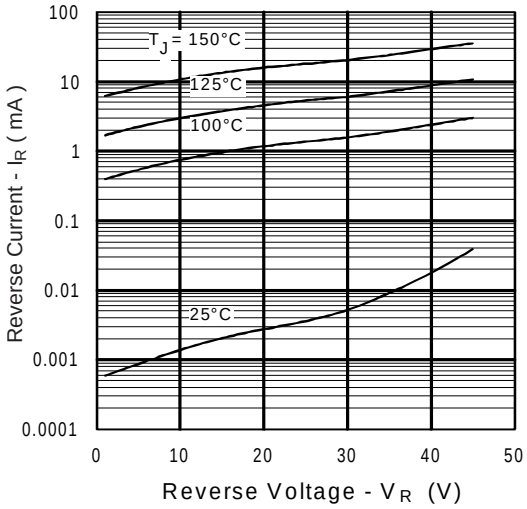



Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

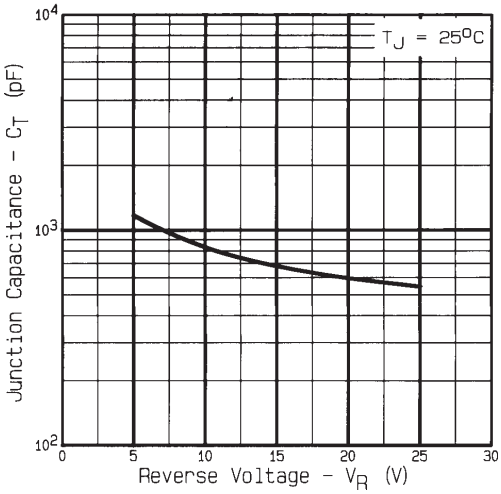



Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

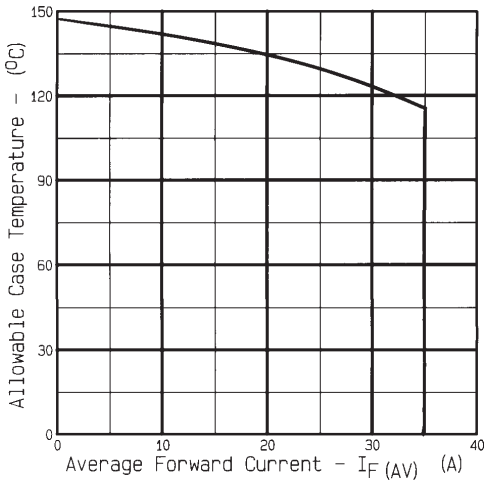



Fig. 4 - Max. Allowable Case Temperature Vs. Average Forward Current (Per Leg)

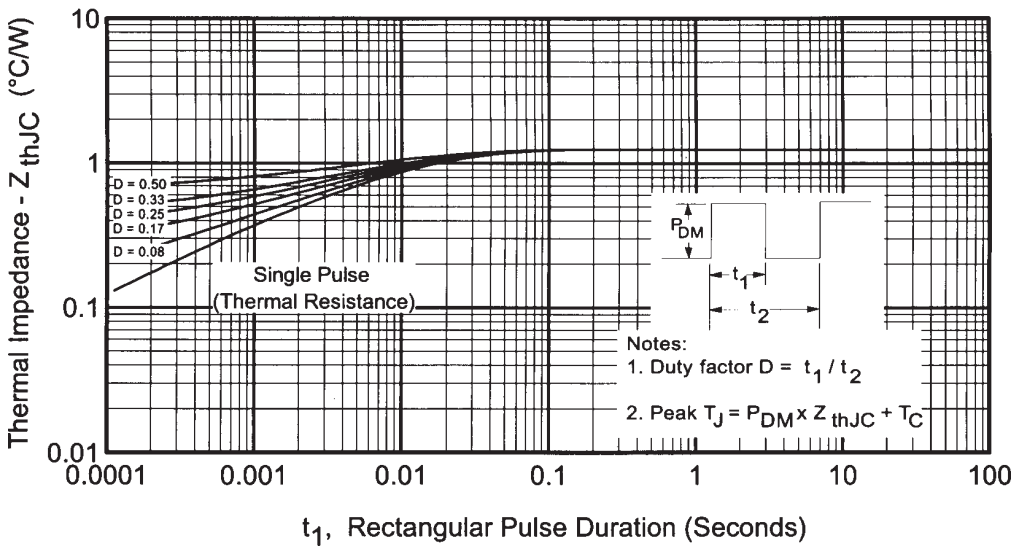



Fig.5 - Max. Thermal Impedance $Z_{thJC}$ characteristics (Per Leg)

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